A MEDICAL-ECONOMIC SURVEY OF SACRAMENTO COUNTY*

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THIS survey of medical economics is submitted to the Chamber of Commerce for its approval, through myself as chairman of the Public Relations Committee.

In the Public Health Section of the Chamber of Commerce, the question naturally arises as to whether Sacramento County is doing her share in meeting the present emergency, particularly as to the percentage of financial distress in Sacramento County as compared with distress evidenced in other like counties, as indicated by expenditures of the State Emergency Relief Administration. If the Relief is expending more in Sacramento County than in other counties of its size in the State of California, one would expect a resultant strain upon the County Hospital, and the matter is of pertinent interest.

MEDICAL-ECONOMIC DEDUCTIONS FROM THE SACRAMENTO COUNTY STUDY

Accordingly, a careful and intensive study has been made of medical-economic factors in the County of Sacramento and State of California, as a result of which the following deductions are made:

1. Northern California and Sacramento County have less pro-rata "temporary poverty" than other portions of the State, particularly the southern portion. In general, areas of stabilized population have less "temporary poverty" than industrial areas, and particularly those areas where there is a combination of industry and tourist appeal.

2. Health factors of Sacramento Valley are being cared for under the present régime without added distress to the sick during this period of depression.

3. State provision for medical care and hospitalization would increase to a tremendous proportion the amount necessarily paid by the taxpayer. This statement is proven by a study of the relative occupancy of public and private hospitals; the numbers of patients treated and the lengths of hospitalization being determining factors, as hereinafter detailed.

4. Local health situations can be more efficiently met by county units through coöperative medical societies than by a state organization with a political background.

5. Individual preparedness and responsibility in meeting emergency, illness and distress need to be fostered through education.

6. It is the duty of all local Chambers of Commerce to plan in times of prosperity for incoming population so that uncontrollable catastrophies may not occur in the community during periods of depression.

* A report submitted to the Sacramento Chamber of Commerce, Sacramento, and accepted and unanimously approved by the Directors.
Read in part at the March 2 meeting of the House of Delegates of the California Medical Association.

In substantiation of these deductions, statistics are submitted which are accurate, having been obtained in large measure through the aid of the Department of Public Health of the State of California, and at no cost to the State, and particularly through the efforts of Guy P. Jones, State Registrar of Vital Statistics.

RELIEF WORK IN STATE OF CALIFORNIA

In October, 1934, there were 623,663 resident persons in the State of California on relief, which constituted 11 per cent of the total population of the State. These figures do not segregate the aged, blind and county farm type of indigent from those on relief due to the present emergency, and indicate that there are 109 individuals on relief per 1,000 of population.

RELIEF WORK IN SACRAMENTO AND COMPARABLE COUNTIES

The counties with populations between 100,000 and 150,000, according to the 1930 census, have the following percentages of relief:

TABLE 1.—*Showing Percentage of Population Receiving Relief in Agricultural Counties*

County	Population	Percentage of Relief
Sacramento	141,999	5.5
Fresno	144,379	5.3
Santa Clara	144,118	5.
San Joaquin	102,940	3.5
Orange	118,674	7.8
San Bernardino	133,900	21.7

This group of statistics tends to show that the agricultural and other stabilized areas outside the industrial areas, with the exception of San Bernardino County, have a lower percentage of population on relief than the industrial districts, which are represented by the following counties:

TABLE 2.—*Showing Percentage of Relief in Three Metropolitan Counties*

County	Population	Percentage of Relief
Alameda	474,883	7.6
San Francisco	634,394	11.1
Los Angeles	2,208,494	15.9

In considering the State as a whole, it is an interesting commentary that the majority of the counties requiring the greatest amount of relief in proportion to population are located in Southern California:

TABLE 3.—*Showing Percentage of Relief in Six of the Seven Southern California Counties*

County	Population	Percentage of Relief
San Luis Obispo	29,613	12.2
San Diego	209,659	14.2
Los Angeles	2,208,492	15.9
Riverside	81,024	16.8
Imperial	60,903	17.1
San Bernardino	133,900	21.7

The exception to this rule is Trinity County with a population of 2,809 and 17.4 per cent on relief.

COMPARATIVE STUDY OF INCOME AREAS

For the purpose of presenting a bird's-eye view of the comparative situation throughout the State, it may be stated that California's income is obtained through the major interests of mining, lumber, agriculture and its by-product, wine production, industry and tourist development. A brief study of these major interests in relation to relief may prove of value:

THE MINING COUNTIES

It is interesting to note that in the mining districts, most of which are in the northern portion of the State, there are few, and sometimes no cases on relief:

TABLE 4.—*Percentages for Some of the Mining Counties*

County	Population	Percentage of Relief
Alpine	241	None
Amador	8,494	1.6 (before gold strike) 6 (after gold strike)
Eldorado	8,325	1.9
Inyo	6,355	None
Mono	1,360	None
Nevada	10,596	7 (in September) 2.3 (in October)
Placer	24,468	1.9
Plumas	7,913	4
Modoc	8,038	1
Sierra	2,422	None
Tuolumne	9,271	13.5

THE LUMBER COUNTIES

The timber counties, those where the chief resource is obtained from exportation of lumber in its crude form, show an increase over the mining counties, probably on account of the curtailment of building in the cities, as follows:

TABLE 5.—*Percentages for Some of the Lumber Counties*

County	Population	Percentage of Relief
Alpine	241	None
Humboldt	43,233	3.7
Lassen	12,589	5
Mendocino	23,505	None
Merced	36,748	1.5
Shasta	13,927	3.8
Siskiyou	25,480	2
Tehama	13,866	9.6
Trinity	2,809	6.6 (in September) 17.4 (in October)

THE AGRICULTURAL COUNTIES

A consideration of relief in the agricultural areas surrounding Sacramento County indicates that these areas have weathered the storm well:

TABLE 6.—*Percentages for Some of the Agricultural Counties*

County	Population	Percentage of Relief
Solano	40,834	2.5
Sutter	14,618	3.1
Colusa	10,258	1.1
Lake	7,166	None
Glenn	10,935	4.6
Stanislaus	56,641	.2
Yolo	23,644	None

WINE PRODUCING COUNTIES

A factor to be reckoned with, though a recently renewed activity, is that of wine production, and mention of the wine producing counties is, therefore, pertinent:

TABLE 7.—*Percentages for Some of the Wine-Producing Counties*

County	Population	Percentage of Relief
Sacramento	141,999	5.5
Fresno	144,397	5.3
Mendocino	23,505	None
Napa	22,897	No report
Solano	40,834	2.5
Sonoma	62,222	3.7

INDUSTRIAL AND TOURIST COUNTIES

In the Bay district, which has not had so great a tourist influx, the figures of Table 8 obtain:

TABLE 8.—*Percentages for San Francisco Bay Region*

County	Population	Percentage of Relief
Alameda	474,883	7.6
Contra Costa	78,608	4.6
San Francisco	634,394	11.1

In Southern California, where there is a great tourist influx, the figures of Table 9 are highly significant:

TABLE 9.—*Percentages for Southern California Region*

County	Population	Percentage of Relief
San Diego	209,659	14.2
Riverside	81,024	16.8
Los Angeles	2,208,492	15.9
San Bernardino	133,900	21.7

DEDUCTIONS AS TO RELIEF

It is concluded, from the figures presented above, that the mining, lumber and agricultural districts, particularly in Northern California, which have not depended upon tourist influx in recent years, but have been established by a slow process of settlement, have fared better during the period of depression than those districts with a great influx of population, and without a program of preparedness and consideration of the ability of the community to assimilate increased population in a logical order. One can only conclude, though least is heard about it in legislative proposals, that the industrial or manufacturing centers urgently require a more intensive consideration of their problems.

RELIEF THROUGH HOSPITALIZATION

This study was undertaken, on behalf of the Public Relations Committee, with a particular view to the medical aspect of relief in the State. It seemed essential to establish a background and orientation of the necessity for relief before the medical response to that necessity could be dem-

TABLE 10.—*Maternity Statistics for Four California Counties*

County	Population	Mothers Admitted	Operations	Babies Born	Maternal Deaths	Infant Deaths	Stillbirths
Fresno	144,379	639	34	566	5	13	22
Orange	118,674	231	9	221	0	13	11
San Joaquin	102,940	634	34	639	3	10	11
San Bernardino	133,900	430	7	428	3	18	18

onstrated. With the background established, a concentrated study has been made of hospitalization, with a view to differentiation between private and charity hospitalization.

In 1933, the bed capacity of private hospitals in California was 17,536 and occupancy averaged 50 per cent, while beds in charity hospitals numbered 15,482, with an 80 per cent occupancy.

During 1933, the private hospitals of the State admitted 246,434 patients, not including 263,325 so-called "out patients"—that is, patients admitted for treatment but not remaining longer than one day. During the same period the charity hospitals admitted only 136,199 patients, including tubercular patients, with 206,499 "out patients." Therefore, with the private hospitals having 2,094 more beds than the charity hospitals, and private hospital beds 50 per cent occupied as compared with 80 per cent occupancy in charity hospitals, it is evident that a much greater length of time was required or consumed for convalescence in charity hospitals than in private institutions, with a greater consequent expense to the taxpayer and no revenue to the county or State, since all private hospitals pay city, county and State taxes.

It must not be forgotten that there are patients in county hospitals who have chronic diseases, which would accordingly increase the average of convalescent days. As a concrete example, 4,536 beds in county hospitals are allocated to tubercular patients, and approximately 3,764 such patients were admitted to these institutions in 1933. Nevertheless, the contrast is startling, since the figures above accurately quoted prove an average hospital stay of *12.9* days in private hospitals as against an average stay of *33.2* days in charity hospitals!

HOSPITALIZATION OF MATERNITY PATIENTS

Since it is impractical to quote a labyrinth of statistics, and since maternity cases are universally cared for in all districts, and to a certain extent may be studied as a criterion of the economic situation, a comparative résumé of this phase of hospitalization only has been attempted.

Sacramento County confined 744 mothers, upon whom it was necessary to perform ten operations. Some 744 babies were born, with one maternal death, nine infant deaths and nineteen stillbirths.

A comparison with counties of approximately the same population is given in Table 10.

It is particularly interesting to observe that Sacramento County, with a population of 141,999 and a percentage of 5.5 on relief, cared for *744* maternity cases, in comparison with only *430* maternity cases in San Bernardino County where *21.7* per cent is required in a population of only 8,000 less than Sacramento County.

As a further comparison:

San Diego County, with a population of 209,659, or approximately *twice* the population of Sacramento County, admitted 696 mothers, delivered 701 babies, with two maternal deaths, eighteen infant deaths and thirty stillbirths.

Alameda County, with a population of 474,883, or approximately four times that of Sacramento County, cared for 1,053 mothers, delivered 991 babies, with no maternal deaths, nineteen infant deaths and forty-six stillbirths.

One must conclude from this study that, with our low percentage of relief, 5.5 per cent, there was a very high percentage of maternal cases in the county hospitals even with restriction of admissions by the Social Service Department, unless it can be proved that the birth rate among the poor of Sacramento County was far greater than that of any other comparable county in California.

In any summation of relief, and particularly of medical care during this period of economic stress, it must be remembered that the physicians serving in all county institutions, with the exception of the practitioner acting as superintendent and the physician in charge of the laboratories, donate their services. Therefore, one cannot but conclude that the private physician is donating his time, which is his only resource, in the care of the public during their great emergency, in a more generous way than any other single individual or group of individuals in the entire State of California.

DISCUSSION OF PROBLEM PRESENTED

Apparently the trend of events has produced two groups of individuals, with differing methods which they consider adequate and feasible for the solution of the present economic problem. One group advocates nationalization of all types of medical care. Nor is this tendency limited to medicine: there has been a tendency, since the advent of the chain store, to regiment industry, first adopted by groups of individuals and now propagated by the national Government in the establishment of codes regulating industry and aided by financial disbursements to the states, thus obligating the state governments to the national Government, and likewise obligating county governments to state governments through acceptance and employment of funds thus provided.

The other group feels that this unequal distribution of poverty and sickness can best be cared for by smaller units represented by counties. Americans, as a people, have been rooted and

grounded in the democratic principles promulgated by Thomas Jefferson, as evidenced by this extract from his Inaugural Address:

"Were not this great country already divided into states, that division must be made, that each might do for itself what concerns itself directly, and what it can so much better do than a distant authority. Every state again is divided into counties, each to take care of what lies within its local bounds; each county again into townships, to manage minuter details; and every township into farms, to be governed each by its individual proprietor. Were we directed from Washington when to sow, and when to reap, we should soon want bread."

The equal distribution of tax throughout all the counties of the state in proportion to population, in caring for distress, must necessarily prove an unfair burden to those counties of the state which have been provident in providing for their own distress.

The medical profession realizes that the care of the sick has been an increasing burden to the

ADDENDA*

TABLE 11.—*Percentage of Population Receiving Relief in California, by Counties (August, September, and October, 1934)*

County	Population 1930 Census	Net (a) Resident Persons on Relief			Per Cent of Population		
		August	September	October	August	September	October
Total State	5,677,251	594,350	580,886	623,663	10.5	10.2	11.0
Alameda	474,883	40,829	36,168	36,003	8.6	7.6	7.6
Alpine	241	(c)	(c)	(c)	(c)	(c)	(c)
Amador	8,494	103	135	506	1.2	1.6	6.0
Butte	34,093	1,216	1,716	2,311	3.6	5.0	6.8
Calaveras	6,008	(d)	(d)	(d)	(d)	(d)	(d)
Colusa	10,258	76	93	115	.7	.9	1.1
Contra Costa	78,608	4,296	6,090	3,614	5.5	7.7	4.6
Del Norte	4,739	260	283	190	5.5	6.0	4.0
El Dorado	8,325	75	113	159	.9	1.4	1.9
Fresno	144,379	7,785	7,623	7,595	5.4	5.3	5.3
Glenn	10,935	391	399	500	3.6	3.6	4.6
Humboldt	43,233	1,420	1,158	1,614	3.3	2.7	3.7
Imperial	60,903	8,023	9,040	10,443	13.2	14.8	17.1
Inyo	6,555	(c)	(c)	(c)	(c)	(c)	(c)
Kern	82,570	5,511	4,924	5,231	6.7	6.0	6.3
Kings	25,385	491	446	631	1.9	1.8	2.5
Lake	7,166	(c)	(c)	(c)	(c)	(c)	(c)
Lassen	12,589	299	407	630	2.4	3.2	5.0
Los Angeles	2,208,492	329,074	327,236	351,989	14.9	14.8	15.9
Madera	17,164	150	162	654	.9	.9	3.8
Marin	41,648	1,267	1,290	1,322	3.0	3.1	3.2
Mariposa	3,233	(d)	(d)	(d)	(d)	(d)	(d)
Mendocino	23,505	(c)	(c)	(c)	(c)	(c)	(c)
Merced	36,748	590	529	535	1.6	1.4	1.5
Modoc	8,038	9	16	83	.1	.2	1.0
Mono	1,360	(c)	(c)	(c)	(c)	(c)	(c)
Monterey	53,705	1,905	2,148	2,149	3.5	4.0	4.0
Napa	22,897	(d)	(d)	(d)	(d)	(d)	(d)
Nevada	10,596	7	69	241	.1	.7	2.3
Orange	118,674	7,685	7,937	9,211	6.5	6.7	7.8
Placer	24,468	7	265	476	(b)	1.1	1.9
Plumas	7,913	(d)	(d)	29	(d)	(d)	.4
Riverside	81,024	14,153	13,143	13,575	17.5	16.2	16.8
Sacramento	141,999	5,184	6,350	7,836	3.7	4.5	5.5
San Benito	11,311	68	77	103	.6	.7	.9
San Bernardino	133,900	25,066	26,144	29,097	18.7	19.5	21.7
San Diego	209,659	25,692	25,511	29,701	12.3	12.2	14.2
San Francisco	634,394	79,937	69,777	70,111	12.6	11.0	11.1
San Joaquin	102,940	2,711	3,488	3,612	2.6	3.4	3.5
San Luis Obispo	29,613	3,523	3,569	3,598	11.9	12.1	12.2
San Mateo	77,405	5,280	4,967	5,093	6.8	6.4	6.6
Santa Barbara	65,167	3,721	4,758	4,756	5.7	7.3	7.3
Santa Clara	145,118	7,379	4,828	7,301	5.1	3.3	5.0
Santa Cruz	37,433	792	854	1,579	2.1	2.3	4.2
Shasta	13,927	573	512	528	4.1	3.7	3.8
Sierra	2,422	(c)	(c)	(c)	(c)	(c)	(c)
Siskiyou	25,480	472	492	500	1.9	1.9	2.0
Solano	40,834	533	667	1,030	1.3	1.6	2.5
Sonoma	62,222	1,517	1,940	2,283	2.4	3.1	3.7
Stanislaus	56,641	206	245	107	.4	.4	.2
Sutter	14,618	239	250	451	1.6	1.7	3.1
Tehama	13,866	625	463	1,335	4.5	3.3	9.6
Trinity	2,809	172	186	488	6.1	6.6	17.4
Tulare	77,442	1,080	565	424	1.4	.7	.5
Tuolumne	9,271	1,222	1,156	1,248	13.2	12.5	13.5
Ventura	54,976	2,442	1,989	1,989	4.4	3.6	3.6
Yolo	23,644	(d)	(d)	(d)	(d)	(d)	(d)
Yuba	11,331	294	708	687	2.6	6.2	6.1

(a) Duplications excluded.
(b) Less than one-tenth of one per cent.
(c) No cases.
(d) No report.

* Addenda include additional tables to the paper by Doctor Hale.

TABLE 12.—*Births in County Hospitals for Year 1933*

County	Mothers Confined	Cesarian Operations	Other Operations Performed	Babies Born	Maternal Deaths	Deaths Infant	Stillbirths
Alameda	1,053	17	90	991	0	19	46
Amador	....	....	....	....	....	....	....
Alpine	....	....	....	....	....	....	....
Butte	77	....	....	77	....	....	3
Calaveras	9	....	....	9	....	....	1
Colusa	23	....	....	19	....	....	4
Contra Costa	118	3	8	117	2	2	1
Del Norte	13	....	....	12	....	....	1
El Dorado	6	....	1	6	....	....	....
Fresno	639	12	32	566	5	13	22
Glenn	2	....	....	3	....	1	....
Humboldt	152	10	44	154	....	1	3
Imperial	115	11	12	115	....	2	4
Inyo	....	....	....	....	....	....	....
Kern	476	15	1	447	....	12	17
Kings	87	1	3	87	1	....	2
Lake	4	....	....	4	....	....	....
Lassen	....	....	....	....	....	....	....
Los Angeles	3,397	99	161	3,434	25	255	144
Madera	91	6	2	94	3	3	1
Marin	....	....	....	....	....	....	....
Mariposa	....	....	....	....	....	....	....
Mendocino	17	....	....	17	....	....	....
Merced	207	3	....	210	....	4	3
Modoc	4	....	....	4	....	....	....
Mono	....	....	....	....	....	....	....
Monterey	103	5	25	122	2	4	8
Napa	3	....	....	3	....	....	....
Nevada	....	....	....	....	....	....	....
Orange	231	9	....	221	....	13	11
Placer	40	4	1	36	....	1	3
Plumas	4	....	....	4	....	....	....
Riverside	197	3	5	197	1	2	12
Sacramento	744	3	7	744	1	9	19
San Benito	1	....	....	....	1	....	1
San Bernardino	430	7	....	428	3	18	17
San Diego	696	3	152	701	2	18	30
San Francisco	784	15	167	795	2	35	37
San Joaquin	634	12	22	639	3	10	11
San Luis Obispo	120	4	....	112	1	1	8
San Mateo	148	2	28	148	....	2	9
Santa Barbara	126	7	....	127	....	3	4
Santa Clara	606	5	150	611	....	14	21
Santa Cruz	93	5	....	95	....	3	1
Shasta	47	....	1	57	1	1	4
Sierra	....	....	....	....	....	....	....
Siskiyou	103	2	....	96	1	2	5
Solano	71	2	....	72	....	1	1
Sonoma	148	2	18	153	1	7	5
Stanislaus	196	33	27	199	3	9	5
Sutter	97	....	....	100	....	4	1
Tehama	40	....	....	40	....	3	....
Trinity	....	....	....	....	....	....	....
Tulare	259	7	6	261	....	8	5
Tuolumne	26	4	2	26	....	1	....
Ventura	198	3	18	201	1	17	3
Yolo	53	....	....	54	....	....	2
Yuba	36	1	1	36	....	6	....
Totals	12,885	321	989	12,767	59	510	478

TABLE 13.—*Hospital Statistics for Private Hospitals in California for Year 1933*

Name	Bed Capacity	Average Number of Patients	Patients Admitted 1933	Out-Patients
Children's	328	235	5,929	15,794
Chronic	25	8	195	135
Eye and Ear	50	14	3,589	10,533
Church	4,804	2,317	76,514	90,819
Fraternal	531	335	6,760	8,477
Independent	6,034	2,828	105,978	94,262
Individual	1,637	604	23,445	16,144
Industrial	731	466	8,658	16,654
Partnership	264	132	3,717	417
Metabolic	28	14	5,160	.....
Nervous and Mental	1,222	830	1,561	.....
Orthopedic	145	133	1,905	6,715
Tuberculosis	1,356	940	1,592	1,993
Maternity	381	234	1,431	1,382
	17,536	9,090	246,434	263,325

TABLE 14.—*Statistics for County Hospitals in California for Year 1933*

Name	Bed Capacity	Average Number of Patients	Patients Admitted 1933	Out-Patients
General	10,946	9,114	136,199	206,499
Tuberculosis	4,536	3,764	2,700	6,000
	15,482	12,878	138,899	212,499

TABLE 15.—*Statistics for State Hospitals in California for Year 1933*

Name	Bed Capacity	Average Number of Patients	Patients Admitted 1933	Out-Patients
Drug and Mentally Defective	812	652	.....	.....
General	3,353	3,013	11,938	10,742
Mental	19,840	18,879	7,328	1,207
	24,005	22,544	19,266	11,949

TABLE 16.—*Statistics for Federal Government Hospitals in California for Year 1933*

Name	Bed Capacity	Average Number of Patients	Patients Admitted 1933	Out-Patients
Army General	865	695	7,427	16,508
General	13	6	293	.....
Indian Affairs	126	68	1,918	18,108
Veterans' Tuberculosis and General	1,550	1,240	4,984	.....
U. S. P. H. S.	2,435	1,606	17,224	30,327
	4,989	3,615	31,846	64,943

TABLE 17.—*Summary for Private, County, State and Federal Hospitals in California*

Name	Bed Capacity	Average Number of Patients	Patients Admitted 1933	Out-Patients
Private	17,536	9,090	246,434	263,325
County	15,482	12,878	138,899	212,499
State	24,005	22,544	19,266	11,949
Federal	4,989	3,615	31,846	64,943
	62,012	48,127	436,445	552,716

TABLE 18.—*Compilation of 1933 Maternity Home and Hospital Reports*

Total number live births in California—1933 75,229

Reports of	No. Mothers Confined	No. Cesareans	No. Other Operations	No. Babies Born	No. Maternal Deaths	No. Infant Deaths	No. Stillbirths
50 county hospitals	12,885	321	989	12,767	59	510	478
408 licensed maternity homes and hospitals	37,020	1,847	3,854	37,050	87	758	846
Totals	49,905	2,168	4,843	49,817	146	1,268	1,324
480 institutions (50 county hospitals) (430 licensed institutions*)	49,771	2,186	5,838	50,280	178	1,338	1,341

California—Total live births, 1933 75,229
Total infant deaths, 1933 ..... 4,022—53.4
Total stillbirths, 1933 ..... 2.032
Total maternal deaths, 1933 ..... 364— 4.8

* Seven licensed institutions unreported.

government, as represented by government-controlled institutions; that the evolution of this care should be carefully considered before any radical steps are taken; and that all medical care should be as free of embarrassing political alliances as it is possible to make it. This point should be emphatically stressed, as it is well known that disturbance is invariably caused through the injection of politics; that the physically-sick often are not capable of sound judgment during emergency; and that the profession, realizing this, should be of the highest standard in ability to care for the sick and of the highest standard morally to properly direct incapacitated sufferers.

This survey tends to prove that Sacramento County, although caring for a larger quota than other comparable counties, has taken care of the needy sick without undue financial distress to the county except to the physicians themselves; and that the county hospital should be carefully supervised in its Social Service Department, so that an unnecessary burden of taxation need not be placed upon the people of the county.

It would further seem that the sudden financial burden of unexpected illness requiring hospitalization can be solved by a type of insurance under proper medical and other supervision, originating in the county. This plan provides safe and adequate private hospitalization for the individual, through voluntary payment of a small sum monthly while in good health. Those improvident individuals who fail to set aside a small sum at stated intervals to provide for possible illnesses constitute the group who are improvident in other

economic arrangements for their future, and it is this group which brings the greatest amount of burden to the taxpayer during periods of depression.

IN CONCLUSION

Two methods evolve for the solution of these problems: (1) Compulsory taxation; (2) Education through publicity; and I quote the words of a distinguished Californian:

"We are challenged with a peace-time choice between the American system of rugged individualism and a European philosophy of diametrically opposed doctrines—doctrines of paternalism and state socialism. The acceptance of these ideas would mean the destruction of self-government through centralization of government and the undermining of the individual initiative and enterprise through which our people have grown to unparalleled greatness."

DIETARY MANAGEMENT IN PREGNANCY*

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IN presenting this subject of Dietary Management in Pregnancy we have attempted to eliminate, in so far as possible, reference to the more complex factors concerning dietetics in general. The purpose of this essay is to call your attention to the necessity of diet, and its advantages to both the mother and the unborn infant.

CONNOTATION OF THE WORD DIET

The word diet should not necessarily imply the limitation of food intake, but rather the intelligent selection of the articles of food that go to make up daily nourishment. There is need for such advice. Because a prospective mother appears healthy, it does not mean that she is eating the proper foods. The newspapers, lay magazines and radio speeches are replete with misinformation. The public has been impressed with the importance of diet and is anxious to eat correctly. The physician must be capable of directing this enthusiasm into the proper channels.

DIETARY SUPERVISION OF IMPORTANCE IN PREGNANCY

In pregnancy, with the health of both the mother and infant to be considered, dietary supervision assumes major importance. Bingham [1] concludes that diet helps to prevent toxemia and reduces anemia. It makes labors easier because of the reduction of fat in the pelvis, and secondly because the babies are usually smaller. Mellanby,[2] Green and others have stressed the importance of vitamin A in preventing puerperal sepsis. Mathieu [3] in *Northwestern Medicine* stressed its need for dental protection. E. Vogt [4] states that a lack of vitamins may be a causative factor in habitual abortion and intrauterine death of the fetus. Reed,[5] in an excellent contribution, "The Calcium Problem in Pregnancy," emphasizes the rôle of this mineral in preventing decalcification of the teeth and as a protector of liver metabolism. Several references to his article will be made. While many authors have dealt with the effect of limitation of weight gain on the size of the fetus, from our observation it appears that oversized babies may be largely prevented. We have observed that the weight of infants under seven to seven and one-half pounds does bear some relation to the maternal gain.

For purely cosmetic reasons (the prevention of obesity) and the minor discomforts, as well as some of the constitutional disturbances of pregnancy, we believe diet is of paramount importance in prenatal care.

Adair,[6] in his chairman's address before the American Medical Association, points out that the needs of the fetus during intra-uterine life are not unlike those of early infancy. The fetus being a parasite, obtains its minerals and vitamins at the expense of the mother. It would seem apparent that if adequate allowance is made for these essentials in the maternal diet, there would be little possibility of depleting the mother's supply and the fetus will be better able to withstand the hazards of extra-uterine life.

DIETARY ESSENTIALS FOR THE PREGNANT WOMAN

What, then, are the essentials of the dietary requirements of the pregnant woman?

1. Protein must be in adequate amount to provide for maternal tissue repair as well as growth of the fetus. In pregnancy there is an alteration in the nitrogen equilibrium. Serious damage will occur if this level is not maintained. It is necessary, therefore, for a daily intake of at least one gram of protein per kilogram of body weight.

2. Carbohydrates are essential for energy, and must meet the demands of the growing fetus as well as the higher metabolic rate in pregnancy.

3. Fat is a concentrated source of energy and a good source of vitamin A; but most pregnant women would gain too much if the fat intake was not controlled.

4. Water requirements are met by the demands of a proper mineral balance in the blood. Excessive increase in weight is a danger signal in toxemias. The normal intake of fluids should be 2000 to 3000 cubic centimeters.[7]

5. Iodin is obtained from eating sea-food at least once a week, and is of particular importance in certain sections of the country to prevent goiter.

6. Most essential of the minerals are calcium, phosphorus and iron. Need of calcium is best expressed by a quotation from Richardson's article,[8] "The Rôle of Viosterol in Pregnancy": "There is no body tissue that is not influenced by or has an influence upon calcium metabolism, either in composition, building, maintenance or function of that

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Read before the Los Angeles Obstetrical Society, April 10, 1934.